DOCUMENT RESUME

ED 370 942 SP 035 309

AUTHOR Benton, Ellen; Bulach, Clete
TITLE Determining the Effectiveness of a School Improvement Plan.
PUB DATE Apr 94
NOTE 25p.; Paper presented at the West Georgia College Research Colloquium (Carrollton, GA, April 22, 1994).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Action Research; Assistant Principals; Attitude Change; *Educational Environment; Elementary Education; *Elementary School Teachers; *Improvement Programs; Principals; Program Development; *Program Effectiveness; Program Implementation; School Personnel; *Teacher Attitudes; Teaching Conditions

ABSTRACT

The purpose of this action research study was threefold: (1) to assess the climate of an elementary school in which the principal, assistant principal, and 67 percent of the teaching staff were new; (2) to develop and implement a plan for improvement; and (3) to reevaluate the school climate to determine whether improvement had occurred. The sample, consisting of teachers, paraprofessionals, custodians, and lunchroom employees, completed the Tennessee School Climate Inventory and the Group Openness and Trust Scale. Fifty-four surveys were distributed and returned. These two instruments identified strengths and weaknesses in the areas of order, leadership, environment, instruction, involvement, collaboration, expectation, group openness, and group trust. Basing their opinion on the data analysis, the faculty agreed that improvement of survey scores was needed. A climate team was formed and a school improvement plan was developed and implemented. After five months, the survey instruments were again administered to faculty and staff. A significant difference was found between the two sets of assessment scores in the areas of involvement, collaboration, group openness, and group trust. The remaining school climate subscales also reflected a positive improvement but not significant changes. (Contains 27 references.) (LL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 370 942

DETERMINING THE EFFECTIVENESS OF A SCHOOL IMPROVEMENT PLAN*

Ellen Benton, Assistant Principal
McDonough Elementary School
33 N. Cedar Street
McDonough, GA 30253
404- 957-3906

Clete Bulach, Associate Professor
Department of Educational Leadership
West Georgia College
Carrollton, GA 30118

*Paper presented at the West Georgia College Research Colloquim on 4-22-94

"PERMISSION TO REPRODUCE THIS MATERIAL IN **OTHER THAN PAPER COPY** HAS BEEN GRANTED BY

E Benton

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

SP035309

BEST COPY AVAILABLE

DETERMINING THE EFFECTIVENESS OF A SCHOOL IMPROVEMENT PLAN

ABSTRACT

The purpose of this study was to assess the climate of an elementary school, develop and implement a plan for improvement, and then reassess to see if improvement occurred. In October of 1993, the climate of McDonough Elementary was assessed using the Tennessee School Climate Inventory and the Group Openness and Trust Scale. These two instruments identified strengths and weaknesses in the following areas: order, leadership, environment, instruction, involvement, collaboration, expectation, group openness, and group trust. A climate team was formed and a school improvement plan (SIP) was developed and implemented.

As a result of the school improvement plan, a significant difference was found between the fall scores and the spring scores in the areas of involvement, collaboration, group openness, and group trust. The remaining school climate subscales also reflected a positive improvement. The changes, however. were not significant.

Introduction

The need for a school improvement project with the focus on climate was very evident to the new administrators of McDonough Elementary school. McDonough Elementary School is part of a rapidly expanding school district which lies about 30 miles south of Atlanta, Georgia. The school was scheduled to close at the end of the 1992-1993 school year because of the opening of a new school. However, due to overcrowded conditions throughout the Henry County School System the school remained open. Since many of the staff transferred to the new school approximately 67% of the faculty and staff were new, making it a difficult task to determine the immediate needs of the school. The principal and assistant principal were also new to the staff and they were concerned about the climate of the school because they believed there was a close connection between a school's climate and success in carrying out its mission. The review of climate research by Ellis (1988) was supportive of this belief.

The Purpose Of The Study

The purpose of this research was to assess the climate of McDonough Elementary School and develop and implement a school improvement plan (SIP) to improve it. A

second purpose was to investigate the research on school climate and select appropriate instrumentation to measure the climate of the school. The administration believed this would be the best way to identify those areas needing improvement as perceived by the staff.

Review of Literature

The literature review covered the following areas: definitions of school climate, the importance of school climate, instruments which measure school climate, and plans for improving school climate. School climate is a term used today for a complex phenomenon that is easy to perceive but difficult to define, measure or manipulate. According to Ellis (1988) school climate is the overall feeling or the impression one gets about the school. The climate of the school can draw a school together and cause unity among the staff and students or it can separate the staff and students causing a negative feeling in the school.

Definitions of School Climate

Many scholars in the area of school climate agree that the climate of a school can determine the effectiveness of the school. However, there is very little agreement on the definition of school climate. School climate can be defined as the combination of all the forces that are present in the school environment. Webb, Greer, Montello, and Norton (1987) described school climate as the school's personality or the school's health. Lindelow (1989) defined school climate as the feeling an individual gets from experiences within a school system. More specifically, he stated that climate is the composite of norms, expectations, and beliefs characterizing the school social system as perceived by its members. Hoy and Clover (1986) defined climate as a set of measurable properties

of the work environment of teachers and administrators based on their collective perceptions. According to Andringa and Fustin (1991), teachers often define school climate as a strong sense of academic mission, high expectations conveyed to all students, a strong sense of student identification/affiliation, high level of professional collegiality among the staff, and ongoing recognition of personal academic excellence. To resolve the problem of varying definitions of school climate Bulach, Malone, and Castleman (1994) developed a definition of school climate which incorporated many of the components of other definitions. That definition was "the perception someone has about the psychological and institutional attributes of an organization or those psychological and institutional attributes which give an organization its personality" p. 4. They defined psychological attributes as openness and trust. They defined the institutional attributes as order, leadership, environment, involvement, instruction, expectations, and collaboration.

Lindelow (1989) stated that school administrators should not be discouraged by the lack of consensus among researchers and practitioners about what constitutes school climate. It is not necessary to arrive at an ideal definition of school climate when initiating school improvements. Favorable school climate combined with quality educational leadership is essential in sustaining school improvement and enhancing school effectiveness. A favorable school climate does not guarantee school effectiveness, but it is a necessary ingredient for such effectiveness. Improving school climate is a worthwhile undertaking according to Lindelow.

Importance Of School Climate

School climate is the result of many actions and influences in the school which can result in school improvement. Ellis (1988) stated that a school with a good climate

is seen as having enthusiastic, hardworking students, a dedicated cooperative teaching staff, and a sense of trust, mutual respect, and support between teachers and administrators. On the other hand, a school with a poor climate is perceived as having students that are not interested in the school, teachers that will not cooperate with the staff and administration, and a principal who is out of touch with teacher and student needs.

Sergiovanni and Starratt (1993) devote a chapter to school climate and change (p.81-104). They state that school climate is important for change to occur. Further, they imply that where a healthy climate exists, levels of openness and trust will be higher which will result in people discussing personal concerns about the change, thereby leading to greater acceptance of the change.

The school climate research also contains a great deal of information citing the importance of climate for student achievement: (Stronge and Jones, 1991), (Brookover, et al., 1977), (Agnew, 1981), (Anderson, 1982), (Howe, 1985), (Stickard, et al., 1986), (Keefe, et al., 1985), and (Lezotte, et al.,1980). The works of Brookover et al., (1979), Rutter (1981), Rutter et al., (1979), and Wynne (1980) (cited in Purkey and Smith, 1983) were used to justify the statement that a student's chance for success is heavily influenced by the climate of the school. Ralph and Fennessey (1983) in discussing Brookover's (1979) work, stated that school climate variables may be the effect or the cause of changes in other variables. e.g., achievement. Hoyle, English, Steffy (1985) stated "school climate may be one of the most important ingredients of a successful instructional program. Without a climate that creates a harmonious and well functioning school, a high degree of academic achievement is difficult, if not downright impossible to obtain" (p.15). Finally, Sweeney (1988) wrote: "..a winning school climate provides the

very foundation for a sound educational program. When the climate is right, people are inspired to do their best. Teachers and students..do what needs to be done to stimulate learning. Achievement generally rises" (p. 1).

Further support for the role of school climate for achievement is supplied by the research of Bulach, Malone, & Castleman (1994). There research on 20 schools showed a significant difference in student achievement between schools with a good school climate and those with a poor school climate.

Measuring School Climate

There are a number of different instruments all of which claim to measure school climate. One of the earlier school climate assessment instruments was developed in 1962 by Andrew Halpin and Don Croft. Their "Organizational Climate Description Questionnaire" (OCDQ) focused on the social interactions that occur between the teachers and the administrators according to Lindelow (1989).

Another example of an assessment instrument designed for measuring school climate is the National Association of Secondary School Principal's School Climate Survey. This school climate survey encompasses a wide range of input and output to the process of school improvement. The survey solicits respondents' perceptions on ten subscales: teacher-student relationships, security and maintenance, administration, student academic orientation, student behavioral values, guidance, student-peer relationships, parent and community school relationships, instructional management, and student activities.

School climate can also be measured with a simplified instrument developed by Charles Kettering's small private foundation, and it has been validated for this purpose. Results of the survey using this instrument provide evidence regarding the extent to which

climate factors are positive or negative according to Howard (1974). These factors are: caring, trust, opportunities for input, respect, cohesiveness, school renewal, high morale, and continuous academic and social growth.

The Tennessee School Climate Inventory (TSCI) by Butler and Alberg (1991) has seven subscales, and it measures five of the six variables frequently identified in the effective school research. They are: order, leadership, instruction, expectations, and involvement. The remaining two subscales are environment and collaboration.

Lyman (1987) wrote that the key to successful school improvement is openness and trust among the faculty, staff, administrators, students, and parents. If one assumes that openness and trust are necessary for schools to operate effectively, the "Group Openness and Trust Scale" (GOTS) (Bulach, 1993) could be used. This scale is an effective measure of openness and trust in groups and organizations such as schools. These two instruments were used by Bulach et al. (1994) to operationalize the definition of school climate.

Plans For Improvement

Ellis (1988) stated that in order to improve school climate, it is necessary to know something about the complex interactions affecting the situation and to recognize who is in the best position to alter existing patterns while determining where to start. He discussed five recent research studies that provided useful guidance in these matters. The first by Anderson (1982), provided a survey of the full scope of school climate literature. From her survey she was able to conclude that the principal can play a decisive role in improving the school climate by providing more encouragement and support for the staff and by seeking their advice and participation in decision making. The second by Coleman (1984) emphasized the importance of parent and teacher perceptions both in ascertaining

According to Moore (1993), an effective school improvement plan should include visionary leadership, shared dicision making, clear institutional goals shared by all, high expectations, exemplary teaching, a nurturing environment, creativity, high parent involvement and a strong relationship with the community.

Lindelow (1989) emphasized that improving school climate appears to be not only a worthwhile, but an essential undertaking. According to Ellis (1988), in one study after another, a "good" school climate was correlated with the teacher's perceptions that they can trust the principal, that they can get help when needed, that they are treated as professionals, and that they are involved in decisions that affect them most.

Summary Of The Literature

The review of literature indicates that improving school climate can improve the effectiveness of a school. To summarize, if one wishes to improve school climate, there is a need to expedite a plan which addresses strengths and weaknesses. There is also a need to select an acceptable climate instrument and an appropriate climate team if a successful plan for improvement is to be developed. As many school personnel as possible should be involved in the school improvement effort. Consequently, a decision was made to assess school climate, identify strengths and weaknesses, select a climate team, and develop and implement a plan which involved as many people as possible.

Hypotheses:

As a result of these efforts, it was hypothesized that:

1. the measure of school climate would improve;
2. the score for each of the nine (9) subscales of school climate would improve.

the climate of a school and in determining how to improve. West (1985) developed a study that shows how climate can affect academic success of disadvantaged students. Another study by Hoy and Clover (1986) emphasized the shift to practical strategies of improving schools. The last study by Gottfredson and Gottfredson (1987) explained how to use organizational development to improve school climate.

According to Andringa and Fustin (1991), teachers in a suburban elementary school identified school climate as a major concern and planned collaboratively for change. These teachers used a change model process proposed by a university consultant and revised by the principal and an effective schools committee. The entire faculty identified school climate indicators that were used to develop a forty three item discrepancy measurement instrument. The four indicators with the largest discrepancy were addressed. The faculty was divided into four groups that developed objectives and implementation plans. This collaborative model was a viable way to identify school problems and plan changes. Teachers and administrators empowered could articulate their common vision of what the school should be and use their creative powers to make that vision a reality.

The principal's major role in exercising leadership for climate improvement is to provide the staff with the information collected so that the staff is able to serve as mediators and transmitters, according to Lindelow (1989). The principal must then enlist the support of others both inside and outside the school to effect any meaningful changes in the school's climate. Lindelow described various methods of improvement. However, he believes that the use of a school climate team was found to be the most effective means of improving climate of a school.

Definitions:

School climate: the perception someone has about the psychological and institutional attributes of an organization or those psychological and institutional attributes which give an organization its personality (Bulach et al.,1994).

Methodology

The staff who were involved in this action research project were fifty two teachers, paraprofessionals, custodians, and lunchroom staff. They varied in ages from twenty three to fifty five. Eighty-three percent were Caucasian and they were of primarily upper to middle class socio-economic status. Thirty percent of the teaching staff had a Masters degree or higher. The principal and assistant principal as well as sixty-seven percent of the teaching staff were new to the school. This was a result of the opening of a new school due to enrollment increases brought about by population increases in Henry county south of Atlanta.

A number of variables are thought to be important when determining the climate of a school. The Tennessee School Climate Inventory (TSCI) and the Group Openness Trust Scale (GOTS) appear to measure those variables which are most frequently cited as important for improving the effectiveness of a school. The GOTS measures the psychological attributes of school climate which are group openness and trust. They are defined as follows:

Group trust = an interpersonal condition that exists between people when interpersonal relationships are characterized by an assured reliance or confident dependence on the character, ability, truthfulness, confidentiality, and predictability of others in the group, Bulach et al.,(1993)

Group openness = an interpersonal condition that exists between people when: (1) facts, ideas, values, beliefs, and feelings are readily transmitted: and, (2) the recipient of a transmission has indicated his/her receptivity to that transmission, Bulach et al., (1993).

The TSCI (Butler et al., 1991) measures the institutional attributes of school climate. They are order, leadership, environment, involvement, instruction, expectations, and collaboration. These are defined as follows:

Order = extent to which the environment is ordered and appropriate behaviors are present.

Leadership = extent to which the administration provides instructional leadership.

Environment = extent to which a positive learning environment exists.

Involvement = extent to which parents and the community are involved in the school.

Instruction = extent to which the instructional program is developed and implemented.

Expectations = extent to which students are expected to learn and be responsible.

Collaboration extent to which the administration, faculty, and students cooperate and participate in problem solving.

Reliability data on the TSCI using the Cronbach alpha or measure of rationale equivalence was an average of +.80 for the seven subscales according to Butler et al. (1991). Reliability data on the GOTS for both subscales was +.82 using the Cronbach

alpha, +.80 using the using split-half, and +.79 using test-retest as determined by Bulach (1993). These two instruments were selected because they operationalized the definition of school climate which was used for this research.

The GOTS is a listing of twenty five self reported behaviors. Twelve of the behaviors provide information on the openness conditions and thirteen provide information on the trust construct as explained by Bulach (1993). Each of the seven subscales of the TSCI consists of seven (7) behaviors for a total of 49 behaviors.

The scores on both instruments were combined for an overall school climate score. The instruments were distributed to each staff member at McDonough Elementary at a faculty meeting in October of 1993. Specific directions were given to all that attended the faculty meeting. Every staff member that did not attend the meeting had to report to the assistant principal the following morning. The remaining surveys were distributed and the directions were given on how to complete the form. Each person had to sign a sheet stating that the survey was taken. Confidentiality was maintained by having the surveys placed in an envelop and then initialing the sheet when the survey was returned. Fifty four surveys were distributed and fifty four were returned. Each person had three days to fill out the survey and return it to the office.

Once the surveys were returned, the data were tabulated and analyzed by personnel from the Department of Educational Leadership at West Georgia College. The results were reported to the faculty and staff at a faculty meeting within a week after the scores were received.

Based on the opinion of the faculty, improvement of the survey scores was needed. It was the opinion of the administration and faculty that a climate team needed to be developed. This decision was presented at a Building Leadership Team meeting.

The Building Leadership Team (BLT), consisted of the principal, assistant principal, counselor, media specialist, special education chairperson, and the grade level chairpeople. The BLT made nominations for the climate Team at the October meeting. Those nominations consisted of three third grade teachers, one fourth grade teacher, one fifth grade teacher, four paraprofessionals, one special education teacher, a food service employee, a secretary, the principal, and the assistant principal. Each nominee was asked individually by the assistant principal to serve on the climate Team. All fourteen nominees accepted the nomination.

The climate team assumed the responsibility for developing plans for improvement. Many types of improvement were planned for the school based on the results of this study. It was the consensus of the staff that the areas of trust, openness, involvement, environment, and collaboration needed the most improvement in our school. The school improvement plan (SIP) targeted these areas. The following list describes the SIP which was designed to directly affect the scores in those areas as well as raise the overall school climate:

1. Two thematic units were planned which required teachers to develop an integrated curriculum. This would help build trust and encourage collaboration.
2. A Career Day was planned to help improve involvement and environment scores.
3. A new discipline system using "passports" to record student behavior was established in grades four and five to encourage involvement.
4. Parents were contacted for excessive tardies or absenteeism to encourage collaboration.

5. The staff was involved in a year long county project to promote team building, openness, and trust. A consultant was hired from outside the county to conduct workshops with the principals and county office personnel. After building trust among these employees, the assistant principals were invited to work on trust building exercises. Finally, building level leadership teams were asked to be a part of this process. This is an ongoing process that will eventually trickle down to all employees of the county.
6. Parents were invited to the school for awards assemblies and three times for an honor roll breakfast to promote collaboration and involvement.
7. Teachers and students were involved with a 55th birthday celebration for the school in which all alumni from 1938-1993 were invited to attend to encourage trust and improve environment and involvement.
8. Plans for a student council were developed to promote collaboration.
9. "Gold Slips" were used to promote good citizenship among the students. Any staff member could issue a gold slip to a student when they were caught doing a good deed. Those slips were placed in the gold slip box and a winner was chosen at the end of the each week. Prizes were awarded and the winner was announced over the intercom. This was to encourage involvement and environment.
10. The teachers and staff were honored with refreshments and gifts during American Education Week and Teachers' Appreciation Week to promote trust and openness.
11. In addition to the Climate Team and Building Level Team a Community

Team and a Curriculum Team were developed. These teams were developed to involve more of the staff in decision making thus improving the collaboration, involvement, openness and trust among our faculty.

12. A school social for the staff was planned at the beginning of the year, at Christmas, and at the end of the year to build openness and trust.
13. Suggestion boxes were placed in the office area so that everyone could give input to each team. This was to encourage the staff to share ideas building involvement and improving environment.
14. A parent volunteer program was developed and utilized to improve the environment.
15. A "Partners in Education" program with area businesses was established.

After five months of implementing the above SIP, the TSCI and the GOTS were again administered to the faculty and staff. A T-test for independent groups was used to analyze the pre- and post- test scores to determine if there was a significant difference between the scores as a result of the SIP. A t-test for non-independent would have been more appropriate, but it was feared that matching scores (which would be necessary for a non-independent t-test) would create distrust and invalidate the data.

Results

The school climate scores ranged from a low of 22.2 to 30.4. The overall school climate score in the fall was 25.1 and the spring score was 28.9. A graphical representation of these scores is in appendix A. The following scale can be used to interpret the school climate score and the scores on the nine (9) subscales which

make up the school climate score (see Table 1).

- scores below 10 indicate that the subjects surveyed are in complete disagreement that a good school climate exists.
- scores 11-17 indicate some disagreement that a good school climate exists.
- scores of 18-24 indicate that sometimes disagreement existed and sometimes it did not.
- scores of 25-31 indicate agreement that a good school climate exists.
- scores of 32-35 indicate complete agreement that it exists.

Table # 1 here

A T-test was used to analyze the pre- and post- SIP scores in order to test the hypotheses (See Table # 2 for the t-scores and levels of significance). Hypothesis #1 stated that there would be an improvement in the overall school climate score. This hypothesis was not supported, i.e., there was not a significant difference in the overall school climate scores from the fall collection of data to the spring collection of data. The result of the T-test for the overall climate score yielded a t-score of 1.88 which was not significant at the .05 level of confidence. While considerable improvement did occur, it was not enough to warrant supporting the hypothesis.

Table # 2 here

Hypothesis # 2 stated that there would be an improvement in each of the climate subscale scores. This hypothesis was supported for four (4) of the (9) climate subscales. The involvement (t-score = 3.53, $p < .05$), collaboration (t-score = 2.78, $p < .05$), group openness (t-score = 5.20, $p < .05$), and group trust (t-score = 4.18, $p < .05$), subscales all showed a significant difference between the fall and spring scores.

The remaining five (5) subscales all showed improvement from the fall to the spring scores. However, the difference in scores was not significant at the .05 level of confidence.

Discussion

Using a school climate improvement team proved to be a successful method for improving school climate scores. The school climate instruments measure 74 behaviors on nine (9) subscales which can be changed to improve school climate scores. These behaviors served as a blueprint for the climate team. The SIP targeted five specific areas for improvement. These areas were group openness, group trust, collaboration, involvement, and environment. The SIP was implemented and a significant improvement was documented for all five (5) areas except for environment. This was very encouraging.

It was also encouraging to note that each of the remaining subscales showed improvement from the fall to the spring. It is quite likely that a significant improvement in other subscales and in the overall school climate score would have occurred if more time had elapsed between the data collection.

It is the belief of these researchers that the improvement on each of the nine (9) subscales can be attributed to the implementation of the SIP and to other factors that changed at the school. At the beginning of the school year several changes took

place. The population of the student body changed with the opening of a new school, and the principal and assistant principal were new to the school as well as 67 % of the faculty. After being together for a school year and the combination of the attempted improvements and the changes, the school was successful in improving the climate. The use of the climate team and the involvement of the staff and students in the decisions are believed to be the most effective part of the SIP. By including the staff and students, ownership of the improvement plan escalated and the need to bring about a positive change became important to everyone.

Assessing school climate and the implementation of a school improvement plan is a lengthy process that requires the administration and staff of a school to be committed to bringing about a positive change. The potential outcome of examining school climate and planning for improvement is a school with strong instructional leaders, clearly articulated goals, and an atmosphere that is conducive to learning. Improving the climate of a school can promote a sense of trust and pride while maintaining order and discipline.

Limitations

Some caution should be exercised in interpreting these findings. First, the elementary school used in this study was a "small town" school with a predominantly white population. Second, the measure of climate dealt with nine (9) specific areas of the school, that were important for this research study. There may be other areas that need assessing in other schools. Also, there is the possibility that the improvement in climate was the result of so many new people getting to know each other. Nonetheless, the findings of this study are encouraging and point to the development of a SIP as being necessary for improving school climate scores.

Conclusions

The use of the Tennessee School Climate Inventory combined with the Group Openness and Trust Scale appears to a very useable diagnostic tool for measuring school climate on nine areas thought to be important for the effective operation of a school. If strengths and weaknesses are diagnosed, a properly implemented school improvement plan can impact changes on areas targeted for improvement. Of the five areas targeted in this study, four showed significant changes. They were group openness, group trust, involvement, and collaboration. The use of a climate team and the involvement of staff, parents, and the community are important contributors to improving school climate.

Many principals would like to improve the climate of their schools, but do not know how to proceed. They may understand how to elicit changes in particular programs, but cannot change something as pervasive and powerful as school climate. This research provided suggestions on how to bring about meaningful changes in a school's climate.

Suggestions for future research

Had the researchers been able to match the pre-SIP scores with the post-SIP scores it would have been possible to use a t-test for correlated groups. Use of that t-test would have resulted in a significant t-score for the overall school climate score. It is suggested that a method be devised whereby the confidentiality of staff's responses can be kept while at the same time allowing for the matching of pre and post scores.

REFERENCES

Agnew, Evelyn M. (1981). The relationship between elementary school climate and school achievement. (Doctoral Dissertation, University of San Francisco). Dissertation Abstracts International, 43, 360A.

Anderson, C. (1982). The search for school climate: a review of the research. Review of Educational Research, 52(3), 368-420.

Andringa, J. & Fustin, M. (1991). Learning to plan for and implement change: school building faculty responds. Journal of Educational Research, 84(4), 233-38.

Brookover, W.B., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J.(1977). Schools can make a difference. A study of elementary school social systems and school outcomes. Paper prepared for East Lansing: Michigan State University, Center for Urban Affairs.

Brookover, W. B., and Lezotte, L. W. (1979). Changes in school characteristics coincident with changes in student achievement. East Lansing: Institute for Research on Teaching. Michigan State University. (ERIC Document Reproduction Service No. ED 181 005).

Bulach, C., Malone, B. & Castleman, C. (1994). The effect of school climate on student achievement. The Georgia Educational Researcher. (in press).

Butler, E. D. & Alberg, M.J. (1991). Tennessee school climate inventory: A resource manual. Memphis TN: Memphis State University, The Center for Research in Educational Policy.

Coleman, P. (1984). Elementary school self-improvement through social climate enhancement. Paper for Annual Meeting of the Association for Supervision and Curriculum Development: New Orleans, LA, 1-17.

Ellis, T. (1988). School Climate. Research Roundup, 4(2), 3-6.

Gottfredson, G. & Gottfredson, D. (1987). Using organizational development to improve school climate. Center for Research on Elementary and Middle Schools: Johns Hopkins University, 1-20.

Howard, E. (1974). School climate improvement: a challenge to the school administrator. Phi Delta Kappa.

Hoy, W. & Clover, S. (1986). Elementary school climate. Educational Administration Quarterly, 22 (1), 93-110.

Howe, Harold. (1985) Giving Equity a Chance in the Excellence Game. in The Great School Debate: Which Way for American Education. edited by B. and R. Gross. N.Y.: Simon And Schuster.

Hoy, W., Tarter, C. & Witloskie, L. (1992). Faculty trust in colleagues: linking the principal with school effectiveness. Journal of Research and Development in Education, 26(1). 39-44.

Hoyle, John R., English, Fenwick W., and Steffy, Betty E. (1985). Skills for successful leaders. Arlington, VA: American Association of School Administrators.

Keefe, James W. et al. (1985, Fall). School climate: clear definitions and a model for a larger setting. NASSP Bulletin. 69. (484), 70-77.

Lezotte, L. W., Hathaway, D.V., Miller, S. K., Passalacqua, J., Brookover, W. B. (1980). School Learning Climate and Student Achievement. Tallahassee, Fla.: The SSTA Center. 53.

Lindelow, J. Mazzarella, J., Scott, J., Ellis, T., & Smith, S. (1989). School Leadership Handbook for Excellence. (Ist ed.). Washington, D.C.

Lyman, L. (1987). Principals and teachers: collaboration to improve instructional supervision (building trust, fostering collaboration, encouraging collegiality). Paper for National Association of Elementary School Principals: Orlando, FL, 1-20.

Moore, C. (1993). 12 secrets of restructuring schools. NASSP Bulletin. 77. 64-69.

Ralph, John H., and Fennessey, James. (1983). Science or reform: some questions about the effective schools model. Kappan. 64. 692.

Rutter, M. (1981, February 26-28). School effects on pupil progress: research findings and policy implications. Paper prepared for the National Institute of Education. U.S. Department of Education.

Rutter, M., Maughan, b., Mortimore, P., Ouston, J., and Smith, A. (1979). Fifteen thousand hours: secondary schools and their effects on children. Cambridge, Mass.: Harvard University Press.

Sergiovanni, T.J. & Starratt, R.J. (1993). Supervision: A Redefinition. New York: Mcgraw Hill, Inc.

Sweeney, Jim. (1988). Tips for Improving School Climate. Arlington, VA: American Association of School Administrators.

Webb, L., Greer, J., Montello, P. & Norton, M. (1987). Personnel Administration in Education. New York: Macmillan.

West, C. (1985). Effects of school climate and school social structure of student academic achievement in selected urban elementary schools. Journal of Negro Education, 22(1), 93-110.

Table # 1.
Range of scores for the school climate subscales.

CLIMATE SUBSCALES	FALL SCORES	SPRING SCORES	DIFFERENCE
Trust	25.1	28.6	3.5
Openness	22.5	25.9	3.4
Order	25	30.4	5.4
Leadership	27.1	30.2	3.1
Environment	24.7	29.5	4.8
Involvement	27.8	29.6	1.8
Instruction	26.6	28.2	1.6
Expectation	24.9	29.4	4.5
Collaboration	22.7	28.7	6.0

Table # 2.
Range of t-scores for the climate subscales and the overall school climate score

VARIABLE	t-SCORE	SIGNIFICANCE (two-tail)
Order	1.64	.105
Leadership	.75	.455
Environment	.44	.662
Involvement	3.53	.001
Instruction	.59	.554
Expectation	1.69	.096
Collaboration	2.78	.007
Group Openness	5.20	.000
Group Trust	4.18	.000
Overall Climate	1.88	.064

degrees of freedom = 81